

**A new species of *Cheiloneurus* Westwood, 1833  
parasitic in *Ceratina* from Tanzania**

(Hymenoptera: Encyrtidae; Anthophoridae)

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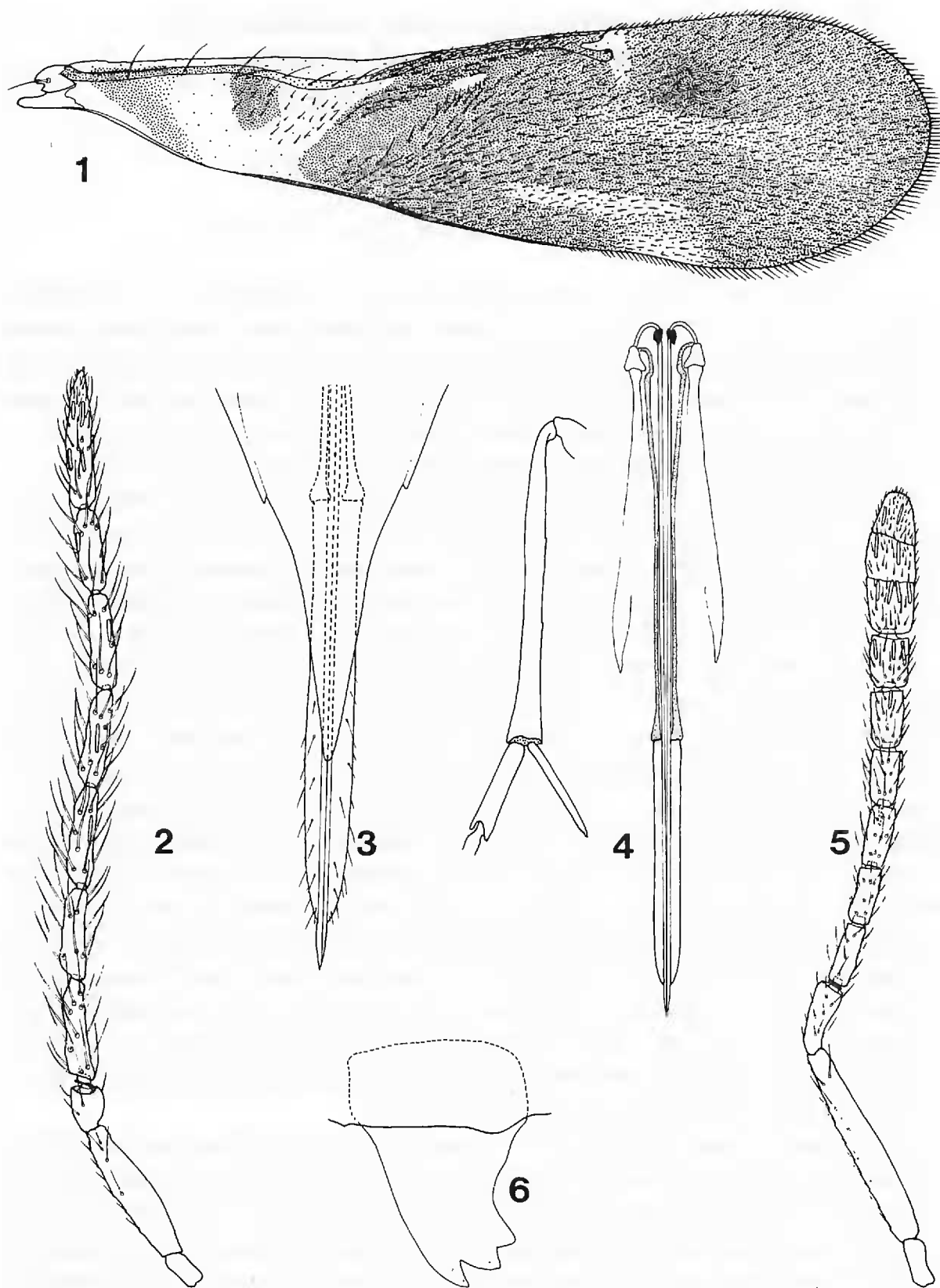
At the request of Professor Howell Daly, Department of Entomology, University of California, Berkeley, we here provide a name for an encyrtid collected by him in East Africa. The species was obtained as a parasitoid or hyperparasitoid of the larva of a lesser carpenter bee, *Ceratina* sp. (Anthophoridae). This host record is the first for a species of *Cheiloneurus* in the apoid Hymenoptera (*vide* Tachikawa, 1974).

In assigning the species described here to *Cheiloneurus* Westwood, we have been compelled to consider several described generic and subgeneric alternatives because the new species presents an anomalous combination of characters. If we were to follow Viggiani (1966, 1970) and Hayat *et al.* (1975), we should very likely propose a new genus for the new species: but we refrain from doing so pending a more thorough study. It seems likely to us that *Neoprochiloneurus* Viggiani and *Prochiloneuroides* Hayat, Alam & Man Mohan may prove to be unnecessary names, since *Procheiloneurus* Silvestri may perhaps very well be left to include species with a tuft of scutellar bristles (e.g. the type-species), and also species with scattered coarse bristles not clustered in a tuft on the scutellum (*clavatus* Compere), and finally also species without coarse bristles there (*bolivari* Mercet). We do not rate the scutellar setation as an infallible generic criterion in the Encyrtidae: such a position has, we believe, been shown to be untenable in *Habrolepis* Foerster and *Comperiella* Howard (*vide* Compere & Annecke, 1961; Prinsloo & Annecke, 1976); in *Encyrtus* Latreille, too, species are known to us with the coarse scutellar bristles scattered, not tufted, on the scutellum.

The species described here as new is distinguished so far as we know from those of all the genera in the group of *Cheiloneurus* in having a caudally acuminate and produced tergum X which overlies the extruded gonostyli for about one-half of their total length (Fig. 4); in this character, and in the strongly extruded ovipositor, this species differs from all the *Cheiloneurus* species known to us. Apart from *C. leptulus*, new species, eight other species are known from the Ethiopian region of which *C. carinatus* Compere was described from Tanzania.

***Cheiloneurus leptulus*, new species  
(Figs. 1-6)**

Female — Colour (alcohol material, now card-pointed) largely brown to dark brown;



Figs. 1-6. *Cheiloneurus leptulus* new species, paratypes. Fig. 1. Fore wing, female (T 4611-2). Fig. 2. Antenna, male (T 4611-3). Fig. 3. Apex of gaster, showing tenth tergite, and protruding ovipositor and gonostyli, female (T 4611-4). Fig. 4. Middle tibia and ovipositor, drawn to the same scale, female (T 4611-4). Fig. 5. Antenna, female (T 4611-4). Fig. 6. Mandible, female (T 4611-4).

head brown to yellowish-brown; antennal scrobes polished; mouth margin dark brown; antenna largely pallid to yellowish-brown, the six funicle segments and club dark brown; thorax with pronotum dark brown; mesoscutum very dark brown with silvery recumbent setae; axillae yellowish-brown; scutellum yellowish, almost as pallid as antennal funicle, contrasting in colour with the strong, dark brown, apical tuft of bristles; legs with all coxae and trochanters pallid; fore leg pale yellowish-brown; middle femur pallid, the tibia brown from near base, fading gradually to pallid near apex; middle tibial spur and tarsus whitish; hind femur dark brown; basal one-third of tibia whitish, remainder dark brown, fading slightly apically; tarsus whitish. Fore wing (Fig. 1) infuscated from near base to apex, the latter not narrowly hyaline; gaster dark brown, the extruded gonostyli whitish.

Length: approximately 2.4 mm.

Head in dorsal view (occiput perpendicular) not fully twice as wide as long; occipital margin acute, slightly concavely sinuate medially; frontovertex, in this view, long, almost three times as long as wide, about one-fourth head width measured at median ocellus; frontovertex anteriorly not forming an acutely inflexed ledge, but roundly curving to scrobal impression; orbits separated from occipital margin at least by an ocellar diameter; ocelli in an acute-angled triangle, the lateral pair separated from each other by about 1.5, from the orbits by about 0.5, and from the anterior ocellus by slightly more than 3.0 times, an ocellar diameter; head, in facial view, with scrobes fully confluent, impressed on the face as a small, almost semicircular furrow, the edges of which are rounded, not sharply angled; upper scrobal limits about at lower level of eyes; interscrobal area broad and prominent; toruli more than their own length from the clypeal margin, about equidistant from the orbits; mandible (Fig. 6) distinctly tridentate. Antenna (Fig. 5) long and slender; scape long, almost cylindrical, not expanded ventrally; pedicel as long as or a trifle longer than basal funicle segment; funicle six-segmented, the segments each longer than wide; segment I three times, and VI about 1.5 times longer than wide, the latter about twice as broad as I; club three segmented, shorter than the distal three funicle segments together; funicle segments III-VI and all three club segments with rhinaria. Head sparsely setose, with a row of fine, slender setae along each eye margin; sculpture of frontovertex and face finely cellulate-reticulate, not strongly raised, the cells resolvable at 50X magnification.

Thorax about 1.5 times as long as wide, subacutely rounded apically, the posterolateral propodeal angles rounded; pronotum long medially, broadly overlying mesoscutum caudally, almost as long as the latter on the midline; exposed part of mesoscutum about twice as wide as long medially; axillae contiguous medially; scutellum long, reaching level of hind margin of propodeum, broadly rounded at apex; propodeum medially about one-third as long as its greatest lateral length; setation dense on exposed part of mesoscutum, especially posteriorly; scutellar tuft strong, with about 20 coarse setae clustered tightly along midline, and a few slender ones nearby; propodeum with up to about four slender setae scattered laterad to each spiracle; sculpture of mesoscutum cellulate-reticulate, more raised than on head, the cells strongly longitudinally orientated; axillae and scutellum with sculptural cells about as wide as long or slightly wider than long.

Legs long and slender; middle tibial spur slightly longer than adjoining tarsal segment. Fore wing (Fig. 1) slender, about four times as long as wide; costal cell broadest towards apex because submarginal vein curves sinuately away from edge of wing; marginal vein straight and very long; postmarginal plainly shorter than stigmal which is knobbed at apex, hardly angled into wing from marginal vein; discal setae coarse in infuscated areas, fine beneath bend of submarginal vein; speculum open caudally, not interrupted, separated from marginal vein by a few setae; longest marginal cilia a little shorter than longest setae on submarginal vein.

Gaster longer than thorax, the cercal plates strongly advanced to about the first one-fourth of length of gaster; tergum X unusual, its apical part narrowly produced to overlie gonostyli for about one-half their length as shown in Fig. 3; ovipositor (Fig. 4), as seen through the derm in cleared slide-mounted specimens, occupying entire length of gaster, strongly exerted at apex, about twice as long as middle tibia, and almost three times as long as gonostyli; the latter about twice as long as tibial spur.

Male — Colour much as in female, except for the hyaline fore wing and the scutellum which is dark brown or blackish-brown; base of gaster pallid. Head with frontovertex



slightly less than one-half head width (7:3); ocelli in a slightly acute-angled triangle; scutellar setation more dense and coarse but without the tuft of setae as in female; antenna (Fig. 2) long and slender, nine-segmented; scape hardly expanded ventrally; pedicel small, much shorter than basal funicle segment; funicle with six slender, subequal segments as shown in Fig. 2; club shorter than the distal two funicle segments together; antennal setation as in Fig. 2; apart from sex characters, male otherwise structurally similar to female.

*Material examined:* holotype female, 53 paratypes (47 females, 6 males) with the following collection data: TANZANIA: Arusha, February 1971, H.V. Daly, ex 11 larvae of *Ceratina* sp. in nest in stem of *Sporobolus* sp. (South African National Collection of Insects Accession No. T 4611). The types are in the National Collection of insects, Plant Protection Research Institute, Pretoria; female paratypes will be deposited on exchange in the United States National Museum, Washington; British Museum (Natural History), London; and Department of Entomology, University of California, Berkeley.

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### Literature Cited

- Compere, H. & Annecke, D.P.** 1961. Descriptions of parasitic Hymenoptera and comments (Hymenopt.: Aphelinidae, Encyrtidae, Eulophidae). *J. Entomol. Soc. S. Afr.* 24:17-71.
- Hayat, Mohammad, Alam S. Mashhood and Man Mohan, Agarwal.** 1975. Indian Insect Types. *Alig. Muslim Univ. Public. (Zool. Ser.) Indian Ins. Types.* pp. 1-112.
- Prinsloo, G.L. & Annecke, D.P.** 1976. New Encyrtidae (Hymenoptera) from South West Africa, *J. Entomol. Soc. S. Afr.* 39:185-199.
- Tachikawa, T.** 1974. Hosts of the Encyrtidae (Hymenoptera: Chalcidoidea). *Mem. Coll. Agr. Ehime Univ.* 19:186-204.
- Viggiani, G.** 1966. Ricerche sugli Hymenoptera Chalcidoidea VI. Genri e specie nuovi per l'entomofauna italiana (Encyrtidae, Aphelinidae, Mymarommidae). *Boll. Lab. Entomol. Agr. Portici* 24:84-105.
1970. Note su alcuni Cheiloneurini, con considerazioni sui generi *Cheiloneurus* Westw., *Neoprochiloneurus* Vigg. e *Procheiloneurus* Silv. (Encyrtidae) XIX Ricerche sugli Hymenoptera Chalcidoidea). *Boll. Soc. Entomol. Ital.* 102:64-69.

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### Editorial Notice

The editors are attempting to put the Pan-Pacific Entomologist back on schedule, however we are having some problems. The typeface we now use takes approximately 20% less space than the former style. This, coupled with several other factors, means we are in desperate need of manuscripts. We always have need for short notes of less than a full printed page, including book reviews of appropriate subjects.